



Australian Bureau of Statistics

1301.0 - Year Book Australia, 1999

ARCHIVED ISSUE Released at 11:30 AM (CANBERRA TIME) 24/02/1999

EMPLOYMENT GENERATION BY THE SMALL BUSINESS SECTOR

INTRODUCTION

This article looks at the contribution of the small business sector to employment growth and employment generation in Australia. These issues have attracted considerable debate in Australia and internationally over the years. They are generally analysed by using either point-in-time estimates or data longitudinally linked at the level of the individual business. The article first presents an analysis of employment in Australia using a point-in-time series, then considers the early results from the ABS's longitudinal survey of Australian businesses. The longitudinal analysis supports some further insights into employment change in Australia.

MEASURING EMPLOYMENT LEVELS IN AUSTRALIA

Total employment growth in Australia is usually measured using results from the monthly Labour Force Survey (LFS), a survey of households which covers all types of employment across all industries. However, the survey does not easily lend itself to disaggregation by size of business, and any analysis by industry is subject to error from the subjective classification of businesses to an industry based on a description of the activity of the business provided by the householder.

In the early 1980s, the ABS commenced the Survey of Employment and Earnings (SEE), a survey of businesses measuring both wages and salaries, and number of employees. This survey enables the derivation of estimates of the number of employees classified by business size and industry, with more accurate industry codes derived from the ABS Business Register. However, the estimates only refer to employees, not total employment, and exclude working proprietors and partners of incorporated businesses. While the SEE covers all businesses in all industries other than Agriculture, forestry and fishing, the analysis in this article is restricted to private sector businesses.

To obtain an estimate of total employment by business size, the results from the SEE need to be combined with estimates from the LFS of persons working in their own business as proprietors or partners. The percentage contribution to total employment can then be estimated for the small business sector, as well as for the medium and large business sectors.

Previous studies of employment growth in Australia have generally used these same data sources. The most recent of these was a Staff Research Paper of the (then) Industry Commission (Revesz and Lattimore 1997). The present article, in summarising the point-in-time analysis, updates the Revesz and Lattimore (1997) paper by extending the series up to 1996-97 and using revised SEE data subsequently published by the ABS.

Studies of the type described above, using point-in-time estimates, have been criticised in recent years because the results may be severely impacted by firms changing size categories across the observation period. To overcome this, a number of researchers have used datasets linked longitudinally at the level of the individual business. Picot, Baldwin and Dupuy (1995), Davis and Haltiwanger (1990, 1992) and Davis, Haltiwanger and Schuh (1993, 1996) have conducted

studies of employment growth using linked datasets for their own countries. In Australia there have also been attempts to overcome the same problems, either using linked ABS Manufacturing Census data (Hemmings 1991, and Borland and Home 1994) or data from the Australian Workplace Industrial Relations Survey (Mumford and Smith 1997).

To further examine these issues in Australia, this article presents some preliminary analysis using the results from a longitudinal survey (BGAPS) being developed by the ABS on behalf of the Office of Small business (now located in the Department of Employment, Workplace Relations and Small Business). This survey was started in respect of 1994-95 and is scheduled to run for five years.

DIFFERENCES ACROSS SURVEYS

The analyses presented highlight some of the difficulties associated with comparing results from different surveys. When data are drawn from different sources, users must be aware of any differences in the scope and coverage of the surveys underlying the analysis. In this article, data are drawn from a number of ABS surveys, including the LFS, the SEE and the BGAPS.

The LFS provides a complete measure of employment in Australia, for both private and public sectors and across all industries. It covers employees and people working in their own business. As each person is only counted once, in their main job, the issue of multiple job holding is avoided. SEE, on the other hand only covers employees, but is subject to the double counting of people who have more than one job as an employee. BGAPS covers only private sector employment and also excludes a number of industries.

The differences in scope, as well as some of coverage, largely explain the discrepancies that appear in the estimates from these surveys. If SEE and LFS estimates are adjusted to the industry scope of BGAPS, SEE and BGAPS give similar aggregate results and the LFS estimates are slightly higher. The fact that the estimates of number of employees from SEE are lower than those from the LFS has been raised on a number of occasions. The differences are likely to stem from errors in both surveys and are a symptom of the changing nature of employment in Australia. Factors which may explain the remaining discrepancies include the omission of some owner managers of limited liability companies in the SEE and the misclassification of some subcontractors and consultants in the LFS.

CHANGE IN SMALL BUSINESS EMPLOYMENT BETWEEN 1983-84 AND 1996-97

Table S4.1 shows private sector employment for small businesses (Non-manufacturing businesses employing less than 20 people and Manufacturing businesses employing less than 100 people) and for other businesses (businesses other than small) for the period 1983-84 and 1996-97, along with the average annual rate of growth over that period.

The average annual growth in employment in the small business sector was 3.2% over the 13 year period from 1983-84 to 1996-97, slightly higher than the growth rate for other businesses (3.0%). Consequently, the contribution of the small business sector to total private sector employment changed very little over the period, rising from 49.7% to 50.2%.

Small business employment can be dissected into people working in their own business and employees. For this purpose, people working in their own business include (sole) proprietors and partners of unincorporated businesses. (Working directors of incorporated companies are generally classified as employees.)

This analysis gives a slightly different picture. Over the 13 year period, the annual growth rate of people working in their own business (2.1%) was significantly less than the annual growth rate of

small business employees (3.6%).

S4.1 EMPLOYMENT, By Business Size Category

	Persons working in own business(a)	Employees of small businesses	Total small business employment	Employees of other businesses	Total employment(b)	Small business employment
	'000	'000	'000	'000	'000	%
1983-84	718.8	1,452.7	2,163.5	2,192.0	4,355.5	49.7
1996-97	932.4	2,314.9	3,247.3	3,223.3	6,470.6	50.2
	%	%	%	%	%	%
Annual average rate of change	2.1	3.6	3.2	3.0	3.1	n.a.

(a) Includes working proprietors and partners of unincorporated employing and non-employing businesses; working directors of incorporated businesses are usually classified as employees. (b) Excludes persons employed in public trading and general government entities, and by businesses in the Agriculture, fishing and forestry industries.

Source: Unpublished data, Survey of Employment and Earnings; unpublished data, Labour Force Survey.

S4.2 AVERAGE ANNUAL RATE OF CHANGE IN EMPLOYMENT-1983-84 to 1996-97

Industry	Persons working in own business(a) %	Employees of small businesses %	Total small business employment %	Employees of other businesses %	Total employment %
Mining	5.5	2.0	2.9	0.7	0.9
Manufacturing	3.0	2.0	2.2	-1.7	0.1
Construction	2.7	5.7	4.1	2.1	3.6
Wholesale trade	-0.5	3.0	2.3	2.5	2.4
Retail trade	-0.1	2.8	1.8	3.6	2.6
Accommodation, cafes and restaurants	3.5	2.7	2.9	4.8	3.9
Transport and storage	0.8	5.1	3.0	4.7	3.8
Finance and insurance	-0.4	3.3	2.4	4.7	4.3
Property and business services	5.3	5.9	5.7	5.1	5.5
Education	5.2	7.4	6.7	8.6	8.0
Health and community services	3.9	7.7	6.9	7.2	7.1
Cultural and recreational services	3.4	2.3	2.7	5.2	3.9
Personal and other services	2.9	4.2	3.6	5.6	4.2
Total	2.1	3.6	3.2	3.0	3.1

(a) Includes working proprietors and partners of unincorporated employing and non-employing businesses; working directors of incorporated businesses are usually classified as employees.

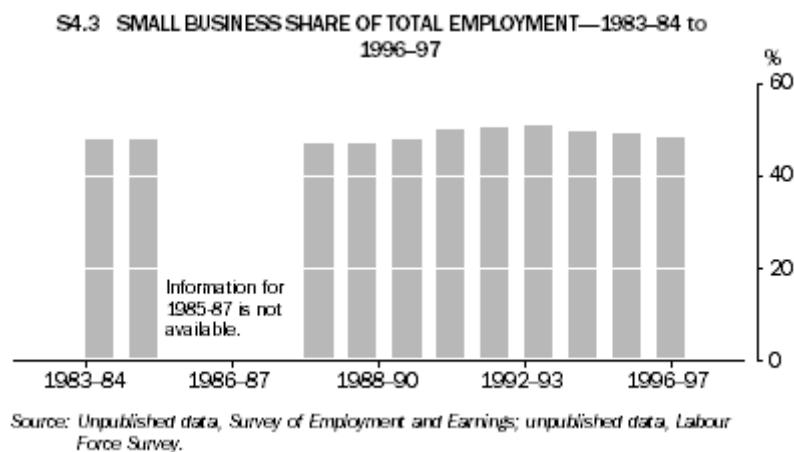
Source: Unpublished data, survey of Employment and Earnings; unpublished data, Labour Force Survey.

It is also possible to analyse the employment change for the different business size categories by looking at individual industries. Table S4.2 shows data for the same time periods classified by industry divisions of the Australian and New Zealand Standard Industrial Classification (ANZSIC).

Although the overall growth in employment in small and other sized businesses between 1983-84 and 1996-97 was almost the same, there are some observable differences at the industry level and, within the small business category, between employees and people working in their own business.

Looking only at the end points of a time series can disguise changes that have occurred within the time period. Examining the small business share of total employment over the period 1983-84 to 1996-97 shows there was a steady growth in the small business share of total employment through the late 1980s up until 1993-94. Thereafter there was a fairly rapid decline, so that by

1996-97 the share was almost back to 1983-84 levels (graph S4.3).



CHANGE IN SMALL BUSINESS EMPLOYMENT BETWEEN 1993-94 and 1996-97

The decline which occurred since 1993-94 is illustrated in table S4.4.

The overall growth rate of private sector employment was 5.2% per annum, with the small business sector growing by 3.6% and the other business sector growing by 7.0%. It is worth noting that this overall rate of growth in employment appears to be much larger than for the total employment estimate derived from the LFS. This difference is discussed earlier in this article. The main reason for it is that the scope of this analysis relates only to private sector employment, and there has been a substantial change in proportions between private and public sectors over this period.

The growth in total small business employment (3.6%) over the period 1993-94 to 1996-97 continued at a little above the long term average of 3.2% (from table S4.1). This was achieved solely through a significant increase in the number of small business employees over the period. Growth in small business employees averaged 5.3% per year, well above the longer term rate of 3.6%. By contrast, the growth in persons working in their own business was slightly negative at -0.3% per annum.

The major reason for the shift in share of employment from the small business sector to the larger business sector was the stronger growth in employment in the larger businesses. Over the three years 1993-94 to 1996-97, employment levels in businesses other than small businesses have grown at 7.0% per annum, more than twice the rate recorded over the 13 year period to 1996-97.

In summary, the fall in the small business share of total employment over the three years to 1996-97 can be attributed to two main factors: a decline in growth of people working in their own business, and much stronger growth in the number of people working in larger businesses.

Examining the data at the industry level would provide further insight into the shift in employment patterns.

S4.4 AVERAGE ANNUAL RATE OF CHANGE IN EMPLOYMENT- 1993-94 to 1996-97

Persons working in own business(a)	Employees of small businesses	Total small business employment	Employment of other businesses	Total employment
------------------------------------	-------------------------------	---------------------------------	--------------------------------	------------------

Industry	%	%	%	%	%
Mining	-23.9	8.9	-6.3	12.7	10.0
Manufacturing	1.8	3.2	3.0	0.4	1.7
Construction	-1.8	8.5	3.0	11.8	4.6
Wholesale trade	-5.4	1.4	0.1	4.1	2.2
Retail trade	-0.4	10.4	6.6	7.0	6.8
Accommodation, cafes and restaurants	2.3	3.3	3.1	6.0	4.7
Transport and storage	-3.2	1.9	-0.4	13.9	5.9
Finance and insurance	-7.9	-3.3	-4.3	8.3	5.5
Property and business services	4.2	7.0	6.2	8.7	7.2
Education	-1.9	9.5	5.6	21.2	16.1
Health and community services	8.1	13.0	12.0	14.4	13.5
Cultural and recreational services	2.0	1.1	1.5	6.2	3.8
Personal and other services	0.3	5.1	3.0	9.5	4.9
Total	-0.3	5.3	3.6	7.0	5.2

(a) Includes working proprietors and partners of unincorporated employing and non-employing businesses; working directors of incorporated businesses are usually classified as employees.

Source: Unpublished data, Survey of Employment and Earnings; unpublished data, labour Force Survey.

LONGITUDINAL ANALYSIS

The above analysis discusses employment change in Australia at the macro level, examining net employment change by business size and industry across different time periods. However, researchers have been aware for some time that such broad analysis may hide many underlying factors which are very important for policy purposes. For example, decomposing the net employment change into its various components enables an analysis of the following:

- gross job generation and gross job destruction, and their components;
- the extent to which job generation and destruction are widespread among firms or concentrated in a relatively small number of firms; and
- the extent to which jobs generated, or destroyed, in any one period are maintained in subsequent time periods.

To address these and other issues relating to the growth and performance of Australian businesses, particularly small businesses, the ABS established BGAPS, in conjunction with the Office of Small Business. The survey is planned to run for five years, commencing in respect of 1994-95. Survey data are now available for three years (1994-95, 1995-96 and 1996-97).

The survey has provided data to allow some of the above issues to be analysed, but there is not yet a sufficient time series to support a comprehensive analysis. The ABS has done some analyses of the survey results, and these have been published in the ABS publication **Small and Medium Enterprises, Business Growth and Performance Survey, Australia, 1995-96** (8141.0). A more detailed analysis of the job generation issues has been undertaken using results from the 1994-95 survey, and these are reported in an ABS working paper **Analysis of Employment Change at Australian Firms**.

The following summarises some of the conclusions from the working paper, as well as showing the aggregate job generation and destruction flows from the 1995-96 survey.

The scope of BGAPS, and therefore the scope of this analysis, includes most non-agriculture employing firms in the private sector. Non-employing firms are excluded. Also excluded are the Education and the health and community services industries which, from the analysis presented

above, have been two of the major growth industries in recent years.

RESULTS FOR 1994-95

The 1994-95 survey, representing the first year of a longitudinal survey, is more akin to a regular 'snapshot' survey undertaken by ABS. However, because some data items (employment, sales and value of exports) were collected for three years in this first survey, it has provided a set of retrospective longitudinal data on employment, albeit based only on a sample of firms which were in operation at the end of the period. the limitations when using such a dataset include the inability to measure the impact of firms which are newly born or which die during the period. it is only possible to measure the impact of firms which continued operation over the period.

The first conclusion from this analysis relates to the extent to which net employment change hides a great deal of job turnover. The survey measured net employment change for continuing businesses of 137,000 in 1993-94 and 149,000 in 1994-95. Table S4.5 shows a dissection of employment change over two twelve month periods, 1993-94 and 1994-95.

S4.5 JOB GENERATION AND DESTRUCTION

	Small businesses		Other businesses		All businesses	
	1993-94 '000	1994-95 '000	1993-94 '000	1994-95 '000	1993-94 '000	1994-95 '000
Employment generation	117	151	149	177	266	328
Employment destruction	58	96	71	84	129	180
Net employment change	58	55	79	93	137	149
Job turnover (generation and destruction)	175	249	220	261	395	508
'Churnover' factor	3.0	4.5	2.8	2.8	2.9	3.4

Source: Unpublished data, Business Growth and Performance Survey 1993-94 and 1994-95.

The table shows that the net employment change of 137,000 persons for 1993-94 was made up of 266,000 new jobs generated and 129,000 jobs destroyed. A summary statistic has been derived to describe the job turnover or 'churning' that may be concealed beneath the net change figures. This 'churnover' statistic is the ratio of job turnover to net job change for each size category. for 1993-94, there was a 'churnover' factor of 2.9, while 1994-95 showed an even greater degree of jobs churning over, indicated by a factor of 3.4.

In 1993-94, the 'churnover' for small businesses was about the same as for larger businesses. However, for 1994-95, the small business sector appears to have a far greater degree of job turnover than other businesses, as suggested by a 'churnover' factor of 4.5 compared to 2.8. For the small business sector in 1994-95, there were nearly 250,000 jobs turned over, for a net increase in employment of only 55,000 jobs. The net employment change was nearly the same as in 1993-94, but the turnover of jobs was 28,000 greater.

Looking at the concentration of job generation and destruction, it appears that there were more firms generating jobs than destroying them. In 1994-95, 18% of firms increased their employment by more than 10%. By comparison, in 1995-96, 26% of firms increased their employment by more than 10% and about 23% decreased their employment by more than 10%. Small business, which includes 94% of in scope businesses, reflected these rates very closely.

RESULTS FOR 1995-96 AND 1996-97

The 1995-96 survey, being the second year of the longitudinal study, allowed the impact of new and ceased businesses to be assessed, rather than just using a static framework and sample as was used for the 1994-95 analysis above. This analysis can be continued as each subsequent

survey in the longitudinal series becomes available. Table S4.6 shows revised job generation and destruction estimates for 1995-96, and table S4.7 shows the results from the 1996-97 survey as published in **Small Business in Australia** (1321.0).

S4.6 JOB GENERATION AND DESTRUCTION-June 1995 to June 1996

	Small businesses '000	Other businesses '000	All businesses '000
Employment generation			
New businesses	343	219	563
Continuing businesses	230	213	444
<i>Total</i>	573	432	1,006
Employment destruction			
Ceased businesses	194	141	335
Continuing businesses	181	180	361
<i>Total</i>	376	321	696
Net employment change	198	112	310
Job turnover (generation and destruction)	949	753	1,702
'Churnover' factor	4.8	6.7	5.5

Source: Unpublished data, Business Growth and Performance Survey, 1994-95 and 1995-96.

S4.7 JOB GENERATION AND DESTRUCTION-June 1996 to June 1997

	Small businesses '000	Other businesses '000	All businesses '000
Employment generation			
New businesses	322	234	557
Continuing businesses	185	210	396
<i>Total</i>	508	444	952
Employment destruction			
Ceased businesses	135	74	209
Continuing businesses	130	188	318
<i>Total</i>	265	261	527
Net employment change	243	183	425
Job turnover (generation and destruction)	773	705	1,479
'Churnover' factor	3.2	3.9	3.5

Source: Unpublished data, Business Growth and Performance Survey, 1995-96 and 1996-97.

The survey showed that total employment generated during 1996-97 was 952,000, made up of 557,000 jobs in new businesses and 396,000 in continuing firms. The revised data for 1995-96 show a similar picture, with 1,006,000 new jobs being generated (563,000 in new businesses and 444,000 in continuing firms). Total employment destruction during 1996-97 was 527,000 made up of 209,000 jobs from ceased businesses and 318,000 from continuing businesses. Employment destruction in 1995-96 was somewhat greater (696,000), with 335,000 jobs from ceased businesses and 361,000 from continuing businesses. Net employment generation was 425,000 in 1996-97 and 310,000 in 1995-96.

As in the 1994-95 analysis, it is apparent that the net employment change figure hides a great deal of 'churnover'. In total, during 1995-96, one million jobs were generated and almost 700,000 destroyed to come to the net increase of 310,000, giving a 'churnover' statistic of 5.5. The 'churnover' factor was lower in 1996-97 (3.5) but still very significant. This was mainly due to a reduced level of employment destruction coming from ceased businesses. These 'churnover' factors are much higher than the level calculated from the 1994-95 survey, but this is because the 1994-95 survey data did not include the contribution from new or ceasing businesses.

In both 1995-96 and 1996-97, the greatest proportion of net employment generation came from

the small business sector. In 1996-97, the sector contributed 57% to net employment generation overall, while in 1995-96 the contribution was 64%.

This analysis shows the significance of births and deaths of businesses to the job generation process. More than half the jobs generated in each year are coming from businesses which commenced during the year. Similarly, a significant proportion of job destruction arose from ceased businesses - 48% during 1995-96 and 40% during 1996-97.

The inclusion of business births and deaths is vital in any study of job generation to give a more complete understanding of the dynamics of change in employment patterns. These factors are also important in the development and formulation of employment policy for the small business sector.

The results from the longitudinal analysis, in which the small business sector is seen to contribute more strongly to net employment growth than larger businesses, appears to contradict the result discussed earlier, derived from the point-in-time analysis. The reasons for the apparent anomaly are as follows:

- the two results come from separate surveys, both of which are subject to sampling and non-sampling errors;
- the BGAPS survey has a different scope to the SEE and Labour Force Survey used earlier - non-employing businesses, and the health and community services and the Education industries, are excluded from BGAPS, but are included in the earlier analyses; and
- the attribution to size in BGAPS is made by reference to the size of the firm as at the beginning of the analysis period (i.e. June 1995), whereas businesses were sized separately for each year of the earlier analysis. Hence, the earlier analysis reflected the effects of firms swapping size boundaries.

CONCLUSION

Time series generated from point-in-time surveys present a useful picture for the analysis of employment in the different business size categories. However, a longitudinal dataset allows the investigation of a number of the more complex issues associated with employment patterns in Australian firms.

The ABS Business Growth and Performance Survey will in the future allow for a detailed study of job generation and destruction in Australia, unlike any that has been possible before. The tracking of firms longitudinally will enable the comparative impacts of births and deaths to be measured as well as the derivation of a number of other statistical indicators to show the concentration and persistence of job growth. It will also allow the decomposition of employment growth by size of business, age of business, sex, industry, type of employment, and State/Territory. Factors which might influence employment generation can also be examined using longitudinal analysis techniques.

The use of longitudinal data will also have the advantage of overcoming the impacts of firms swapping size boundaries, which is claimed by some international researchers to be a very significant problem for employment growth analyses.

While the BGAPS will become more useful for job generation and destruction analyses when a longer time series is available, two important points have become evident to date:

- the importance of births and deaths to studies of job generation and employment change; 1995-96 and 1996-97 data would suggest that these components contribute more than half of the jobs generated and more than 40% of the jobs destroyed; and

- the significant amount of 'churning' occurring, in both the small and larger firm sectors, which is hidden in the more traditional forms of analysis.

The analyses in this article present a complex picture of the relative importance of the small and larger business sectors to employment growth. The initial analysis showed that both small business and larger businesses increased employment quite significantly in Australia over the past decade. There were periods when growth was stronger in the small business sector, and periods when larger businesses dominated.

However, the longitudinal analysis for the two years June 1995 to June 1997 shows that, over that period, small business was the strongest contributing sector to employment growth. The analysis also shows the critical importance of the formation of new businesses and the cessation of existing businesses to net job generation.

It is also clear that analysing net employment change alone will not bring to bear a significant amount of other information which is important to economic management in Australia.

REFERENCES

ABS publications

Small and Medium Enterprises, Business Growth and Performance Survey, Australia, 1995-96 and 1996-97 (8141).
 Small Business in Australia 1321.0).

Other publications

Birch, D.L. 1987, *Job Creation in America: How Our Smallest Companies Put the Most People to Work*, Collier MacMillan Publishers, London.

Borland, J. and Home, R. 1994, *Establishment-Level Employment in Manufacturing Industry: Is Small Really Beautiful?*, Department of Economics, University of Melbourne, Research Paper 395, February 1994.

Davis, S.J. and Haltiwanger, J. 1990, 'Gross Job Creation and Destruction: Microeconomic Evidence and Macroeconomic Implications', NBER Macroeconomics Annual, pp. 123-168.

Davis, S.J. and Haltiwanger, J. 1992, 'Gross Job Creation, Gross Job Destruction, and Employment Reallocation', *The Quarterly Journal of Economics*, vol. CVII, pp. 819-863.

Davis, S.J., Haltiwanger, J. and Schuh, S. 1993, 'Small Business and Job Creation: Dissecting the Myth and Reassessing the Facts', NBER Working Paper No. 3392.

Davis, S.J., Haltiwanger, J. and Schuh, S. 1996, *Job Creation and Destruction*, MIT Press, Cambridge, Massachusetts.

Hemmings, P. 1991, 'Firm size and Employment Dynamics', *Labour Economics and Productivity*, vol. 3, no. 2, September 1991, pp. 153-162.

Mumford, K. and Smith, P.N. 1997, 'Gross Job Flows and Reallocation in Australia', Working Paper, Department of Economics, University of Melbourne.

O'Brien, M. 1998, 'Analysis of Employment Change at Australian Firms', Working Paper, ABS, Canberra.

Picot, G., Baldwin, J. and Dupuy, R., 'Small Firms and Job Creation - A Reassessment', *Canadian Economic Observer*, January 1995.

Revesz, J. and Lattimore, R. 1997, 'Small Business Employment', Industry Commission Staff Research Paper, Industry Commission, Canberra.

© Commonwealth of Australia

All data and other material produced by the Australian Bureau of Statistics (ABS) constitutes Commonwealth copyright administered by the ABS. The ABS reserves the right to set out the terms and conditions for the use of such material. Unless otherwise noted, all material on this website – except the ABS logo, the Commonwealth Coat of Arms, and any material protected by a trade mark – is licensed under a Creative Commons Attribution 2.5 Australia licence